

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

To:

see form PCT/ISA/220

PCT

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY (PCT Rule 43bis.1)

Date of mailing
(day/month/year) see form PCT/ISA/210 (second sheet)

Applicant's or agent's file reference
see form PCT/ISA/220

FOR FURTHER ACTION

See paragraph 2 below

International application No.
PCT/GB2004/000094

International filing date (day/month/year)
12.01.2004

Priority date (day/month/year)
13.01.2003

International Patent Classification (IPC) or both national classification and IPC
F16T1/34

Applicant
SPIRAX-SARCO LIMITED

1. This opinion contains indications relating to the following items:

- Box No. I Basis of the opinion
- Box No. II Priority
- Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- Box No. IV Lack of unity of invention
- Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- Box No. VI Certain documents cited
- Box No. VII Certain defects in the international application
- Box No. VIII Certain observations on the international application

2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will usually be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA"). However, this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of three months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA:



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Box No. I Basis of the opinion

1. With regard to the **language**, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
 - This opinion has been established on the basis of a translation from the original language into the following language , which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).
2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
 - a. type of material:
 - a sequence listing
 - table(s) related to the sequence listing
 - b. format of material:
 - in written format
 - in computer readable form
 - c. time of filing/furnishing:
 - contained in the international application as filed.
 - filed together with the international application in computer readable form.
 - furnished subsequently to this Authority for the purposes of search.
3. In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
PCT/GB2004/000094

Box No. II Priority

1. The following document has not been furnished:

- copy of the earlier application whose priority has been claimed (Rule 43bis.1 and 66.7(a)).
- translation of the earlier application whose priority has been claimed (Rule 43bis.1 and 66.7(b)).

Consequently it has not been possible to consider the validity of the priority claim. This opinion has nevertheless been established on the assumption that the relevant date is the claimed priority date.

2. This opinion has been established as if no priority had been claimed due to the fact that the priority claim has been found invalid (Rules 43bis.1 and 64.1). Thus for the purposes of this opinion, the international filing date indicated above is considered to be the relevant date.

3. Additional observations, if necessary:

**Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or
industrial applicability; citations and explanations supporting such statement**

1. Statement

Novelty (N)	Yes: Claims	3-8,12-21,24
	No: Claims	1,2,9-11,22,23,25
Inventive step (IS)	Yes: Claims	3-8,12-19
	No: Claims	1,2,9,20-23,25
Industrial applicability (IA)	Yes: Claims	1-25
	No: Claims	

2. Citations and explanations

see separate sheet

Box No. VII Certain defects in the international application

The following defects in the form or contents of the international application have been noted:

see separate sheet

Box No. VIII Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

see separate sheet

Re Item V

**Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step
or industrial applicability; citations and explanations supporting such statement**

1. Independent claim 1

1.1 The document US-A1-3037518 discloses a condensate trap comprising a vortex chamber (15), an inlet (14) and a single outlet (see column 2, line 10). The inlet is disposed to admit fluid into the chamber in a manner to promote a vortex flow of the fluid within the chamber, and the outlet comprises an axial aperture (16 or 17) located at an axial end of the chamber (see figure 1).

1.2 The random vortex generated in the vortex chamber includes, among others, a vortex about a longitudinal axis of the chamber,

The feature "the inlet being disposed to admit fluid in the chamber in a manner to promote a rotational flow of the fluid in the chamber about a longitudinal axis of the chamber" is thus known from US-A1-3037518.

1.3 The subject matter of claim 1 can therefore not be considered as new (Article 33(2) PCT).

2. Dependent claims

2.1 The additional features of dependent claims 2, 9, 10, 11, 23 are also disclosed by US-A1-3037518, the subject-matter of these claims can therefore not be considered as new.

2.2 The subject matter of claims 20 and 21 consists merely in the selection of a value for the diameter of the escape aperture. Such a selection is a normal design procedure which can be regarded as inventive only if the selected value presents unexpected effects or properties with regard to the other values that could be chosen by the skilled person. Since no such effect or property are indicated in the application, dependent claims 20 and 21 cannot be considered as involving an inventive step (Article 33(3) PCT).

2.4 The subject matter of dependent claims 3-8, 12-19 is neither known nor rendered obvious by the available prior art.

Re Item VII

Certain defects in the international application

The wording of claims 22 and 25 refers to the description and the drawings and is thus in contradiction with the International Search and Preliminary Examination Guidelines (see chapter 5.10).

Re Item VIII

Certain observations on the international application (Clarity)

1. It is clear from the description (see page 7, lines 4-15) that the fact of locating the escape aperture adjacent to a low pressure region of the vortex is essential to the definition of the invention. Since independent claim 1 does not contain this feature, it does not meet the requirement following from Article 6 PCT taken in combination with Rule 6.3(b) PCT that any independent claim must contain all the technical features essential to the definition of the invention.

2. Claim 1 does not meet the requirements of Article 6 PCT also in that the matter for which protection is sought is not clearly defined. The claim attempt to define the subject-matter in terms of the result to be achieved: the creation of a rotational flow of the fluid in the chamber. The technical features necessary for achieving this result should be added, based on the teachings of the description (see for example page 6 lines 17-34).

General remarks

1. The attention of the applicant is drawn to the fact that a redrafted claim 1 taking into account the two former remarks could be considered as new and inventive according to Article 33 (2) and (3) PCT.
2. The applicant is requested to file amendments by way of replacement pages in the manner stipulated by Rule 66.8(a) PCT. In particular, fair copies of the amendments should be filed preferably in triplicate.